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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PF030176	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/EP2004/053098	International filing date *(day/month/year)* 25.11.2004	Priority date *(day/month/year)* 28.11.2003
International Patent Classification (IPC) or both national classification and IPC G11B7/13, H01L31/0203		
Applicant THOMSON LICENSING S.A. ET AL.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

   ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of 2 sheets.

3. This report contains indications relating to the following items:

   - I ☒ Basis of the opinion
   - II ☐ Priority
   - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   - IV ☐ Lack of unity of invention
   - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
   - VI ☐ Certain documents cited
   - VII ☐ Certain defects in the international application
   - VIII ☐ Certain observations on the international application

Date of submission of the demand	Date of completion of this report
16.09.2005	10.11.2005
Name and mailing address of the international preliminary examining authority: European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer Pacholec, D Telephone No. +31 70 340-4530

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP2004/053098

I. Basis of the report

1. With regard to the **elements** of the international application *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17))*:

Description, Pages

1-7 as originally filed

Claims, Numbers

1-6 as amended (together with any statement) under Art. 19 PCT

Drawings, Sheets

1/4-4/4 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

   These elements were available or furnished to this Authority in the following language: , which is:

   ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).

   ☐ the language of publication of the international application (under Rule 48.3(b)).

   ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

   ☐ contained in the international application in written form.

   ☐ filed together with the international application in computer readable form.

   ☐ furnished subsequently to this Authority in written form.

   ☐ furnished subsequently to this Authority in computer readable form.

   ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

   ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

   ☐ the description, pages:

   ☐ the claims, Nos.:

   ☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

   (Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-6
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-6
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-6
	No:	Claims	

2. Citations and explanations

   see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Reference is made to the following document:
   D1: US-A-5 811 799 (WU ET AL) 22 September 1998 (1998-09-22)

2. The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and shows (the references in parentheses applying to this document):
   Method of producing a photoelectric transducer, having the steps of:
   -providing a spacer (30) with a recess in a rigid material;
   -mounting the spacer (30) on board (10) bearing at least an optical sensor (50) in such a way that the optical sensor (50) is located in the recess;
   -filling at least part of the recess with an optical glue, and
   -hardening the optical glue,

3. The subject-matter of claim 1 differs from this known D1 in that the width of the recess is such large that after hardening the surface of the optical glue is plane at least above the optical sensor (50). It is therefore not disclosed in the available prior art nor obvious for these skilled in the art.

4. The subject-matter of claim 1 is therefore new (Article 33(2) PCT).

5. The problem to be solved by the present invention may be regarded as how to simplify manufacturing of the transducer for the optical pick up device.

6. Claim 2 is the device claim related to claim 1 and it is also new (Article 33(2) PCT).

7. Claim 3 comprises all the features of claim 2 and should have been therefore formulated as a claim dependent on the latter (Rule 6.4 PCT).

8. Claims 3-6 are dependent on claim 2 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

Claims

1. Method of producing a photoelectric transducer, having the steps of:
- providing a spacer (7) with a recess in a rigid material;
- mounting the spacer (7) on a board (8) bearing at least an optical sensor (9) in such a way that the optical sensor (9) is located in the recess;
- filling at least part of the recess with an optical glue (11), and
- hardening the optical glue (11),
wherein the width of the recess is such large that after hardening the surface of the optical glue (11) is plane at least above the optical sensor (9).

2. Photoelectric transducer, including a spacer (7) with a recess in a rigid material, the spacer (7) being mounted on a board (8) bearing at least an optical sensor (9) in such a way that the optical sensor (9) is located in the recess, at least part of the recess being filled with an optical glue (11), **characterized** in that the width of the recess is such large that the surface of the hardened optical glue (11) is plane at least above the optical sensor (9)

3. Optical pick up suitable for reading an optical disc, **comprising:**
- a photoelectric transducer according to claim 2, and
- an optical body (1) with means for transmitting at least one light ray to the optical sensor (9) through the

optical glue (11), the spacer (7) of the photoelectric transducer being fastened to the optical body (1).

4. Optical pick up according to claim 3, **characterized** in that the wall (14) of the spacer (7) defining the recess is perpendicular to the board (8).

5. Optical pick up according to claim 4, **characterized** in that it uses at least two light rays, and at least two optical sensors (9a, 9b) on the board (8) each designed to receive one light ray, the spacing (E3) between the centers of the optical sensors being the same as the spacing (F3) between the corresponding light rays (R1 and R2) at the surface of the optical glue (11).

6. Optical pick up according to one of claims 3 to 5, **characterized** in that the spacer (7) and the optical body (1) are produced in the same material.